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⑲日本国特許庁（JP）　⑪実用新案出願公開

⑳公開実用新案公報（U）　昭62－51913

⑤Int.Cl.⁴	識別記号	庁内整理番号	㊸公開　昭和62年(1987)3月31日
H 02 G 3/04		E－7303－5E	
H 01 B 7/18		Z－7435－5E	
17/58		E－7227－5E	
			審査請求　未請求　（全2頁）

㊹考案の名称　電線・ケーブル保護材

㉑実　願　昭60－142466
㉒出　願　昭60(1985)9月18日

㉓考案者　佐藤　俊一　東京都世田谷区宮坂2丁目25番25号　株式会社潤工社内
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㊺実用新案登録請求の範囲

(1) 柔軟性を有する筒状体の筒孔内に、該筒孔内に挿入されるべき芯線としての電線・ケーブルの一端に連結されて該芯線を筒孔内に引き込むための引込用条体を設けたことを特徴とする電線・ケーブル保護材。

(2) 筒状体が編組により形成されたものであることを特徴とする実用新案登録請求の範囲第1項に記載の電線・ケーブル保護材。

図面の簡単な説明

第1図は、この考案に係る電線・ケーブル保護材の一実施例を示す斜視図、第2図a及びbは、電線・ケーブル保護材を芯線に装着する動作を示す側面図、第3図は、電線・ケーブル保護材の編組装置を示す説明図である。

1……筒状体、2……引込用条体、3……繊維供給ドラム、4……条体供給ドラム、5……巻取りドラム、6……ポリプロピレン単繊維、7……芯線。

FIG.1

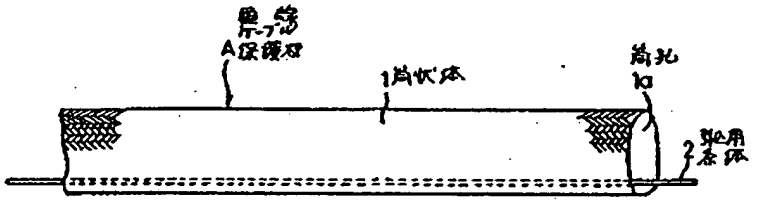


FIG.2a

FIG.2b

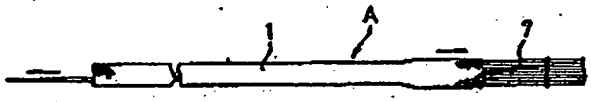
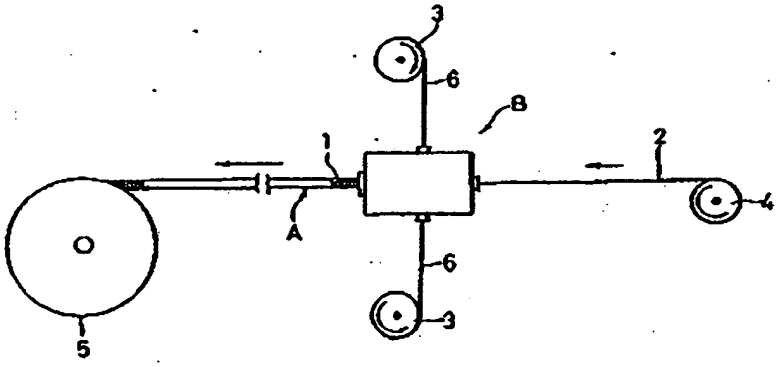


FIG.3



UTILITY MODEL DISCLOSURE S62-51913

(19) JAPANESE PATENT OFFICE (JP)

(12) OFFICIAL GAZETTE FOR

UNEXAMINED UTILITY MODEL PATENT APPLICATIONS (U)

(11) Utility Model Patent Application Disclosure (Kokai)

Number: S62-51913

(43) Date of Disclosure (Laid Open): March 31, 1987

(51) Int Cl[4].	Identif. Symbol	Intra-Office File Number
H 02 G 3/04		E-7303-5E
H 01 B 7/18		Z-7435-5E
17/58		E-7227-5E

Request for Examination: Not submitted (All pages)

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(54) Title of the Utility Model: Material for Protecting Electric Wire and Cable

(21) Utility Model Application Number: S60-142466

(22) Filing Date: September 18, 1985

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(74) Agent: Tetsuya Mori, Patent Attorney and two others

DESCRIPTION

1. Title of Invention: Material for Protecting Electric Wire and Cable

2. CLAIMS

1. A material for protecting electric wire and cable provided with a pulling rod connected to one end of an electric wire or cable which wire or cable is to be inserted into the tubular hole of a flexible tubular body as its core wire, said rod being used for pulling said core wire into the tubular hole.

2. The material for protecting electric wire and cable according to claim 1, wherein the tubular body is formed by braiding.

3. BACKGROUND OF THE UTILITY MODEL INVENTION

(Field of Applicability in Industry)

This invention relates to materials for protecting electric wire/cable which fit externally over the electric wire/cable covering it/them as a protective material for various kinds of electric wires or cables.

(Description of the Related Art)

Conventionally, as this type of protective material for electric wires and cable, there are materials whereby the electric wires /

cables are covered by inserting a single electric wire or cable, or a plurality of electric wires or cables, or a bundle of both, as the core line(s), into a protective sleeve in order to prevent cutting damage, abrasion, etc. of the electric wires and cables. In addition, this type of protective material for electric wires and cables is made in a tubular shape from braided monofilament fiber of a synthetic resin, such as polypropylene, which stretches or contracts responsive to the radial dimension of the core wire inserted therein. Because such material, like the core wires, is long, it is generally sold as rolled-up rods [sic, but probably typo for "in a rolled-up state."]

(The Problem which the Invention seeks to Solve)

However, with these conventional examples, in case the electric wire/cable protective material which is a braided body is rolled up, the interior open passage cannot keep its shape and the material is flattened into a belt shape. Moreover, because the material has flexibility, considerable effort is involved in inserting into the passage hole the pulling rod which is used for pulling into that passage hole the electric wire/cable to be inserted. In addition, when mounting electric wire/cable protective material onto core wires over particularly long distances, in some cases the electric wire/cable protective material must be cut into sections and mounted in lengths that make it easy to insert the pulling rod and there were

the problems that fraying prevention was required at the cut edges and termination processing, etc. was required at the various connections, etc.

The present invention was devised to solve these common problems and obtain an electric wire/cable protective material which enables easy fitting of the electric wires/cables which are to be the core wires and speeding up of wiring work, etc.

(Means of Solving the Problem)

The present invention is configured to provide a pulling rod connected to one end of an electric wire or cable which wire or cable is to be inserted into the tubular hole of a flexible tubular body as its core wire, said rod being capable of pulling said core wire into the tubular hole.

(Operation)

The pulling rod is secured to the core wire (electric wire, cable, etc.) at the opening at one end of a tubular body and can be pulled from the opening at the other end. In this way, the tubular body can be fitted onto the core wire from the opening at the end of the tubular body so that the wire becomes covered.

(Embodiment)

Below is described one embodiment which shows in figures the

details of the electric wire/cable protective material according to present invention.

In the figures, 1 is a long tubular body, formed for example by weaving polypropylene monofilaments into a tubular shape and having flexibility. Pulling rod 2 is arranged so that it is passed through tubular hole 1a of tubular body 1.

Electrical wire/cable protective material A, comprised of this kind of tube rod body [sic, but probably typo for "tubular body"] 1 and pulling rod 2, is manufactured by an apparatus of the type shown in Fig. 3.

In the same figure, B is a braiding apparatus, and tubular body 1 is woven from polypropylene monofilament fibers supplied from a plurality of fiber supply drums 3 ~ 3 mounted on axes in a peripheral direction to said apparatus. At this time, pulling rod 2 is supplied from rod supply drum 4 to above-mentioned braiding apparatus B, and B sends that pulling rod 2 onward, positioned within tubular hole 1a of above-mentioned tubular body 1. The electric wire/cable protective material A, woven in this way, is wound onto take-up drum 5.

In the case that this electric wire/cable protective material A is externally fitted/mounted to an electric wire, cable, or both, which will be the core wire 7, pulling rod 2 which extends out from

one of the open ends of tubular body 1, as shown in Fig. 2(a) and 2(b), is secured to that core wire 7 (Fig. 2(a)). While pulling that pulling rod 2 from the opening at the other end of that tubular body 1, core wire 7 is pulled in from above-mentioned opening at one end of that tubular body 1 (Fig. 2(b)).

Note that Figures 2a and b show the situation where pulling rod 2 is used in the case of mounting electric wire/cable protective material A on core wire 7, but in the case that the pulling strength of that pulling rod 2 is insufficient, in order to provide a stronger pulling rod, it is possible to use pulling rod 2 to pull in a wire or the like and thus pull into tubular body 1 a new pulling rod.

An embodiment has been described above, but the cable jacket according to this invention can undergo various design changes, besides the above-mentioned embodiment.

In the above embodiment, tubular body 1 is a braided body made from a synthetic resin monofilament, but a braided body formed of metal wire is also acceptable. Likewise, a configuration wherein sheets of synthetic resin or rubber are welded, sewn, glued or otherwise formed into a pipe shape is also acceptable, as is one wherein a tubular shape is formed right from the start, by means of

extrusion. It is preferable to form a tubular body having both flexibility and a stretchable nature.

In addition, the above-mentioned embodiment describes an example wherein core wire 7 is a bundle of multiple cables, but it is of course true that electric wire/cable jacket A may be applied to embodiments wherein a single cable or electric wire is used or wherein both types are bundled into one.

(Effects of the Invention)

With the electric wire/cable protective material according to the present invention, because a pulling rod is provided, there are the effects that pulling of the core wire, such as wire, cable, etc., is easy and the work of mounting the material can be accomplished speedily.

In addition, there is the effect that core wires with long lengths can be continuously covered with a single length of electric wire/cable protecting material, without having to divide the material into segments to mount it.

4. Brief Description of the Figures

Fig. 1 is an oblique view showing one embodiment of the electric wire/cable protective material according to this invention;

Fig. 2 (a) and (b) are side views showing the operation of mounting electric wire/cable protective material on a core wire; and

Fig. 3 is an explanatory diagram showing an apparatus for braiding electric wire/cable protective material.

In the figures:

1 tubular body

2 pulling rod

3 fiber supply drum

4 rod supply drum

5 take-up drum

6 polypropylene monofilament

7 core wire

Applicant for Registration of Utility Model Patent

Junkou Co. Ltd.

Representative: Tetsuya Mori, attorney

Representative: Yoshiaki Naito, attorney

Representative: Tadashi Shimizu, attorney

Text in Figures:

Fig. 1

A Electric wire/cable protective material

1 Tubular body

1a Tubular hole

2 Pulling rod

[no translation needed]